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Editor

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RETOUCHING OF NESSIE FLIPPER PHOTO CLAIMED—DENIED



Supposed flipper of Nessie taken by an underwater camera in 1972. This high contrast image, published in *Technology Review* in 1976, was produced by the Academy of Applied Science following computer enhancements at the Jet Propulsion Laboratory. A claim has now been made that the photo was "retouched." (© Academy of Applied Science.)

The wide-circulation popular science magazine *Discover* carried an article in its September, 1984, issue claiming that one of the famed "flipper" photos of Nessie, taken in 1972 by an underwater camera operated by the Academy of Applied Science (AAS), had been "retouched," and, by implication, that fraudulent evidence was involved.

The allegations in *Discover* are the latest in a long series of attacks on the venerable Scottish lake monster in recent years. The first came from mammalogist Maurice Burton, former Deputy Keeper at the British Museum (Natural History), writing in *New Scientist* in 1982, who explained Nessie sightings as misidentifications of normal events, particularly otters at play (see "Log Ness Monster?," *Newsletter*, Winter 1982). This was followed by an article by Scottish engineer Robert P. Craig, who specifically proposed rotting tree trunks being thrust to the loch's surface by trapped, pressurized gas (see

same *Newsletter* article above).

The following year, Ronald Binns published his book *The Loch Ness Mystery Solved*. The book attempts to explain all sightings in terms of mirages and misinterpretations of otters, birds, deer, etc. The book was published in England in 1983 and is scheduled for publication in the United States in early 1985. (Details will appear in a future newsletter, and the book will also be reviewed in the journal.) Then, in early 1984, Scotsman Stuart Campbell published an article claiming that the famed surgeon's photo was hoaxed, that Colonel Wilson, the witness, knew he was only photographing an otter (see separate article, this issue).

The new *Discover* claim, contained in an article entitled "The (Retouched) Loch Ness Monster" in its regular *Skeptical Eye* column, is based on information provided by two Rochester, New York, engineers, Rikki Razdan and Alan Kieler, who spent several months at Loch

Ness in 1983 attempting to obtain evidence of Nessie. Razdan and Kielar deployed about \$100,000 worth of equipment at the loch, including 144 mini-sonar transducers and nine automatically triggered biopsy dart harpoons to collect tissue samples (see *Newsletter*, Winter, 1983).

Coming up with negative results--no large animals swam below their floating transducers --Razdan and Kielar returned to the United States frustrated and disappointed. They then concentrated on debunking previous Loch Ness findings, particularly those produced by the AAS group headed by Robert Rines. "They were able to account, one by one, for the monsters detected by the cameras or sonars of other expeditions," stated *Discover*. "The Rochester engineers asked Allan Gillespie of the Jet Propulsion Laboratory [JPL], who had done the computer enhancement of the [AAS] pictures, to send them copies of the enhanced shots he had returned to Rines. To their astonishment, the images were grainy and indistinct, and bore little resemblance to flippers." *Discover* ran a copy of the photo the AAS had published (see cover of this newsletter), and a copy of an enhanced version obtained from Dr. Gillespie.

The magazine then quoted Dr. Gillespie as stating that "the published pictures look a little suspicious around the margins," and quoted Charles Wyckoff, a member of the Rines team, as stating that "after JPL finished with the photographs, they were retouched. Rines is the only one who could know how much they were retouched or who retouched them."

The two AAS "flipper" photographs, together with the later (1975) "body" and "head" photos, have always been considered reliable. Those involved have impeccable reputations. Rines is dean of the Franklin Pierce Law Center in New Hampshire. Harold "Doc" Edgerton, an engi-

neering professor at the Massachusetts Institute of Technology (MIT), was the inventor of the strobe flash, and is considered the "father" of time-lapse photography. Charles Wyckoff originally developed the special films used to photograph atomic explosions. And Martin Klein is a major designer and manufacturer of side-scan sonars. Although in the past others had claimed that the images in the photographs are open to different (i.e., non-"monster") interpretations, nobody before had actually implied that fraud had been involved in their production. Because of the potential importance of the photos in supporting the unknown animal hypothesis, and because of the seriousness of the *Discover* allegations, the Editor has attempted to obtain accurate facts, which are summarized below.

Soon after the *Discover* allegations were published, the Editor learned of (and received a copy of) a letter of rebuttal from Mr. Wyckoff to *Discover*. Mr. Wyckoff accused *Discover* of misquoting him and creating "false and seriously misleading impressions." Soon afterwards, quite by chance, the Editor met Mr. Leon Jaroff, *Discover's* managing editor, at a conference, and he raised the matter of the AAS photos. Mr. Jaroff informed the Editor that *Discover* stood behind its original article because of certain evidences in its files (presumably supplied by Razdan and Kielar), and that he had no intention of publishing Wyckoff's letter, which he stated was full of "errors and distortions." The Editor asked if it would be possible for him to obtain copies of such evidences. Mr. Jaroff informed him that, while it was against the magazine's policy to provide copies of confidential information in its files, it might be possible to provide certain summaries or segments verbally, and that he should contact Richard Demack, the reporter at *Discover* who wrote

the article.

The Editor wrote to Mr. Demack on November 26, 1984, stating that he would appreciate "a summary of the documentation you do have, which supports the statements in the article," as well as an indication of the errors and distortions that you feel can be pinpointed" in the Wyckoff response. The Editor emphasized that the Society takes no position on the matter, but that "it is difficult for me to present an objective summary without more information at hand." No response was received from Mr. Demack, nor from anybody else at *Discover*. Mr. Jaroff, meanwhile, had returned to the science staff at *Time*, which like *Discover* is published by Time-Life Inc. The Editor wrote to Dr. Rines on the same date, requesting his cooperation in clarifying the matter. Dr. Rines responded with a telephone call, in which he stated that the *Discover* allegations were false and outrageous. He requested that, as *Discover* refused to publish Mr. Wyckoff's letter, the Society provide AAS space to respond to the allegations, to which the Editor agreed.

In the meantime, the Editor spoke on the telephone with Dr. Gillespie at JPL. Dr. Gillespie confirmed having sent Razdan and Kielar computer-enhanced versions of the Rines photos, at their request, including the one which appeared in *Discover*. He was never directly interviewed by the magazine, however.

Dr. Gillespie stated that the enhancements he had returned to AAS in 1972 were, in fact, considerably less clear to the human eye than the versions published by AAS 4 years later in *Technology Review*, Vol. 78(5):25-40 (March-April, 1976), and elsewhere. He stated that AAS had apparently combined various different enhancements in a "sandwich" form to come up with their final flipper image. He stated that, if that were the

case, there was nothing intrinsically improper in the procedure, but that AAS should have detailed the procedure when publishing the photos, which it did not do. Thus, it appears that if the Rines group did, in fact, combine data in such a way as to make the image more perceivable to the human eye without introducing new data--such as in air-brushing or retouching--then *Discover's* allegation of "retouching" has no merit. Dr. Gillespie also stated that the procedures outlined in Mr. Wyckoff's unpublished letter to *Discover*, which he had seen (and which is reproduced below), "are reasonable, but require more detailed technical explanations before a detailed understanding of how the pictures were produced can be arrived at."

The Editor also clarified some other points with Dr. Gillespie. The *Discover* article talks about "the" computer-enhanced photo, giving the misleading impression that just one enhancement is produced in image processing. In fact, many different enhancements can be produced, showing different contrasts and pseudocolors--which was the case in this instance--conveying either more or less recognizable information to the human eye. When *Discover* and Razdan and Kielar talk about "the" enhancement, they have either a serious misunderstanding of the computer-enhancement process--as in fact many people do--or they purposefully attempted to make the AAS case weaker in a misleading way. It is also not clear why Razdan and Kielar addressed the merits of only one flipper photo, when there actually were two photos involved, taken about a minute apart.

Dr. Gillespie also thinks that, before further discussion ensues, investigators should go back to the original transparencies to see if any details which resemble the supposed Loch Ness animals are actually present. "The purpose of the attempted

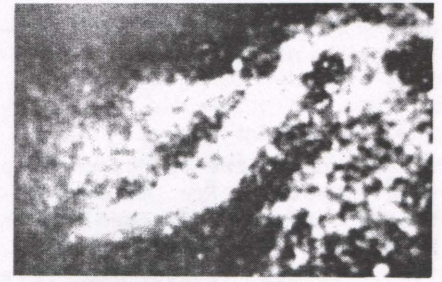
photography of Nessie, and the subsequent computer enhancements," he stated to the Editor, "was to help resolve the controversy over the existence of such animals in the loch, not to produce endless new debates over the merits of different technical procedures."

To further evaluate the case, the Editor consulted with B. Roy Frieden, of the Optical Sciences Center at the University of Arizona. Dr. Frieden, who did the enhancements of the Mansi photo of the Lake Champlain Monster (see *Newsletter*, Summer 1982) was the principal developer of computer-enhancement techniques in the 1960s. After examining the various images in *Technology Review* and *Discover*, and studying the response by Mr. Wyckoff, Dr. Frieden felt that a more detailed explanation is needed from the AAS group detailing the exact steps taken to produce the final images. "There are still unresolved questions which would have to be answered," he stated, "before any definitive conclusion can be reached." He added: "ISC readers cannot--and should not--reach a final conclusion at this point."

A statement from the Academy, taken up mainly by the text of Mr. Wyckoff's unpublished letter, appears below. Normally, the *Newsletter* does not publish authored texts, except letters, but an exception is being made in this case. Messrs. Razdan and Kielar are welcome to respond to the Academy's statement if they wish.

STATEMENT BY THE ACADEMY OF
APPLIED SCIENCE IN RESPONSE
TO ALLEGATIONS PUBLISHED BY
DISCOVER MAGAZINE

In an article appearing in the September, 1984, issue of *Discover* magazine, based upon communications from Rikki Razdan and Alan Kielar, the Academy of Applied Science is accused of "retouching" a computer-enhanced picture to make a flipper out of



One of several computer-generated images processed at the Jet Propulsion Laboratory, which *Discover* magazine refers to as "the" Jet Propulsion Laboratory computer-enhanced photograph.

it. Other experiments were criticized as unscientific and spurious.

We have to counter this would-be expose challenging the authenticity of earlier results of the Academy and other groups, lest silence, which is what the slipshod and sensation-directed character of these articles deserves, be misinterpreted as admission, and perpetuated by future writers. In the past, we have not answered such allegations, and have thus provided ammunition for sensationalists to use without effective remedy under libel law.

Because he had been quoted out of context, Mr. Wyckoff chose to respond to *Discover*, pointing out the serious errors of these charges. The then managing editor of *Discover*, however, refused not only to print Mr. Wyckoff's letter, but did not print any other letters to the editor sent by knowledgeable persons, copies of which letters were sent to the Academy for information purposes, including a letter questioning *Discover's* ethics by Nigel Sitwell, the former editor of *Wildlife*, who had some years earlier written a thorough analysis of these pictures with the aid of the original and enhanced versions and personal discussions with the investigators and the enhancers (*Wildlife*, March, 1976).

We are grateful for the opportunity to set the record straight by reproducing below

Mr. Wyckoff's unpublished response to *Discover*.

"I would like to respond to your Skeptical Eye column entitled "The (Retouched) Loch Ness Monster" in your September, 1984, issue, because you have misquoted my conversation with you which changed both meaning and context, and thus have created false and seriously misleading impressions. Because of this, I ask that this letter be printed in full.

"At the outset, let me make it clear that the Academy of Applied Science has never produced or released a single 'JPL computer-enhanced photograph' with the slightest bit of 'retouching' or change. Furthermore, I state with certainty that Robert H. Rines has had no involvement with retouching of any kind of photography, despite the outrageous innuendo to the contrary.

"When the original 1972 film was developed by Kodak under bond, the transparencies, in original form and without any enhancement, were examined by me and various authorities, including those at the Smithsonian, who were responsible for the published descriptions of the appendage shown therein, now called a 'flipper.' The Academy released a copy of the original picture to which you refer--but do not show--without any enhancement, at the Institute of Electrical and Electronics Engineers NEREM 72 lecture by Rines on November 1, 1972, in Boston. Shortly thereafter, the same material was displayed at the Boston Museum of Science, in which I participated, and where it was dubbed the so-called 'Rines' picture.

"Subsequent versions were printed in newspapers and magazines with whatever 'retouching' the photographic departments of those publications considered appropriate to show in print in

their media what the transparencies showed.

"By the time *Technology Review* published our article in 1976, to which you refer, photographic copies had been made by the Academy and others of versions enhanced by two techniques. The first version was a composite of the original copy transparency with negatives of several different JPL computer-enhanced digital reconstructions (not just the single edge-enhanced high-pass filtered version you label 'the actual JPL computer-enhanced photograph'). The composite was an entirely proper procedure that produced a picture containing all the information of the original film with edges of any solid objects emphasized as delineated by the computer scans. The second version was made by the well-known technique of photographic contrast enhancement of the original film based on the same areas emphasized by the computer-enhanced scans (and in that sense only, 'retouched'). This is also a recognized and proper procedure.

"Two of these versions were reproduced in *Technology Review* in 1976, together with a third JPL computer-enhanced version (which you do not mention), all under a single legend of computer-enhanced pictures. At the time this legend seemed appropriate, but as we now see, it did not technically fully describe the compositing enhancement applied to the upper 'flipper' pictures. We regret any confusion this may have created. The first two pictures more accurately could have been separately labeled 'composite photographs of successive original film transparencies using several different JPL computer-enhanced digital reconstructions from the original film transparencies'; and the third picture could have been labeled 'reproduction of JPL edge-enhanced scan of original film transparency.'

"These have all come to be

popularly and loosely called 'computer-enhanced' photographs, but in no case do they represent retouching of the JPL digitally reconstructed pictures.

"The upper sepia picture of your article, which you mislabel as Robert Rines' famous flipper picture, supposedly enhanced by a computer at the Jet Propulsion Laboratory, is not, in fact the original picture that the Academy released, but is probably one of what must by now be hundreds of magazine or other reproductions of the *Technology Review* version, using whatever 'retouching' those magazines may have introduced--but all showing the same basic shape.

"The second picture (which should not be equated with the original picture, as above explained) is, in Gillespie's words, a 'reconstruction of the high-pass filtered digital image of the original transparency provided by the Academy. The effect of the enhancement has been to remove the strong illumination gradient detail seen in the original transparency, while also emphasizing the edges of any objects in the scene.'

"Your implication that the 'Rines picture' that you purport to show is a retouched version of the lower computer-enhanced picture is irresponsible. Your correspondents, in their 'pains-taking' research, never even asked to see the original transparencies!

"Turning to the discussion of our many sonar results, the statement that, in 1972, the picture in question was taken by the underwater camera 'after a sonar device...detected...two large moving objects' is also an incorrect reporting of the actual operation. In fact, the pictures were taken at fixed time intervals automatically and independently of the sonar. You have totally missed the point of the spectacular corroboration of independent sonar and photographic detection. Your claim

that the sonar merely shows 'wakes of boats' demonstrates, furthermore, that you failed to unearth the article in the February, 1978, issue of *IEEE Spectrum*, a publication of the Institute of Electrical and Electronics Engineers, co-authored by Harold E. Edgerton, of MIT, and myself, which reports our recording of sonar signatures from large moving underwater objects which are strikingly similar to those of 1972, in the absence of 'wakes' or other artifacts.

"The Academy, after seeing your article, extended to your correspondents [Razdan and Kielar] an invitation to bring their 'evidence' and concerns to a meeting of the Academy team and other experts, and to review the original Academy films, their JPL enhancements, the original 1972 sonar charts and records, the 1975 photographs and their JPL enhancements, and the 1976 and subsequent sonar

results, and to discuss the facts; but your correspondents refused the invitation, and refused to supply the Academy with their 'evidence,' or even the names of their sources of information, and said that, as far as they were concerned, the Loch Ness Monster matter was closed.

"Dr. Gillespie says that he has repeatedly pointed out (and warned your correspondents) that the whole issue of enhancements is here something of a 'red herring,' in that the original unenhanced (and published) Academy/Rines pictures show these objects also. The enhancements only ideally make shapes in the originals more conspicuous.

"Lastly, we would have thought that, if you had intended to be objective, you would have really tried to ascertain what Rines had to 'say about all this' before rushing

into print. Your correspondents [Razdan and Kielar] knew well his address in Scotland, since they met him there (as well as earlier in the United States), and he extended to them the courtesies of the Academy, including use of its raft and other facilities at Loch Ness."

We appreciate this opportunity to set the record straight, and we hope that we may have offered some discouragement to other seekers of publicity and sensation, and after-the-event rewriters of history.

ACADEMY OF APPLIED SCIENCE

Robert H. Rines
Harold E. Edgerton
Charles W. Wyckoff
Martin Klein
Robert Needleman
Howard S. Curtis

HOAX CLAIMED FOR WILSON PHOTO

"The Surgeon's Monster Hoax" is the title of an article which appeared in the April 20, 1984, issue of *The British Journal of Photography*. Written by Scotsman Stuart Campbell, the article attempts to debunk the authenticity of the Wilson photograph of the Loch Ness Monster, which is considered the "classic" picture of Nessie because of its depiction of a long neck and a small head.

The photograph was taken by Lt. Col. Kenneth Wilson, a London surgeon who served in the Royal Army Medical Corps during World War II. The event took place in April of 1934, when Wilson was vacationing in Scotland. He never claimed to have seen or photographed "the monster"--as Nessie had been dubbed just the year before--and, in fact, refused to become involved in the ensuing publicity.

Campbell, in his new analysis, uses the relationship between a circle and an ellipse to determine that Wilson must have had his camera tilted downwards at an angle of 19°, meaning that the object could not have been more than about 309 feet away. In a letter to Constance Whyte in June, 1955, however, Dr. Wilson had stated that the object he photographed was "some distance out from the shore, perhaps 200-300 yards out."

The difference between Wilson's written estimate (600-900 feet), and the distance which comes out of Campbell's calculations (309 feet) is considerable. The location of the event also becomes important. In the same letter cited above, Wilson stated: "At about 7:30 a.m., I stopped by the roadside 2 or 3 miles on the Inverness side of

Invermoriston at a point where the road is some hundred feet above the loch. As recently as 1954, I tried to find the exact spot, but could not place it within a mile. The road, of course, has been rebuilt since then." By studying an 1874 Ordnance Survey map of the area, Campbell believes that he can pinpoint this "exact spot," despite the fact that the map was prepared 60 years prior to the event, and the northern road along the loch had been completely rebuilt and widened in the early 1930s. Important to Campbell's thesis is that the candidate locations be about 100 feet above the water, as Wilson had stated, and have a "clear view" of the loch. Whether an area which did not have a "clear view" in 1874, when the Ordnance Survey map was prepared, might have had one in 1934, is not addressed by Campbell.

After locating what he believes to be the "exact spot," a field on a promontory with a clear view about 100 feet above



The 1934 Wilson photograph. The neck of a large unknown animal, or the tail of a diving otter? (Associated Newspapers photo.)

the water, Campbell calculated that, because of the size of the field, Wilson must have been no more than about 223 feet from the object, far less than the 600-900 feet he described. Furthermore, Campbell concludes that "there is no point in the field where Wilson could have stood to see an object in the water at the required angle."

Campbell continues: "...the bottom of the picture must subtend an angle of about 35° to the horizontal. Since no foreground appears in the picture, it is impossible for it to have been taken from the field mentioned above, which in any case falls at a much shallower angle. To avoid foreground, the photograph must have been taken from a point where the shore falls away at an angle of at least 35°. On Wilson's route, such a point is not reached until the road drops down to within 9 meters [30 feet] of the water, when the shore is only about 15 meters [49 feet] from the road and is unobstructed by trees. Consequently, I conclude that it was at such a point that Wilson stopped to take the photographs.... It will be seen that the 'monster' is now less than 30 meters [98 feet] from the

camera (probably only 16 meters [52 feet] offshore). With a lens angle of 36°, the picture plane at the object must be 19.5 meters [64 feet] high, and since the object constitutes only 3.6% of the total picture height, it must be only 0.70 meters [2 feet, 3 inches] high...that is a rather small monster!"

Campbell then goes on to review some explanations given previously for the Wilson photo, and concludes that the "otter hypothesis" of mammalogist Maurice Burton is the most likely. Burton, formerly with the British Museum (Natural History), presented his views in *New Scientist* in 1982 (see *Newsletter*, Winter, 1982, and Burton's Comment in *Cryptozoology*, Vol. 2, 1983).

In his final conclusions, Campbell states that Wilson was "not honest about where he stood when he took the photograph, and the evidence suggests that he did this deliberately to leave the impression that he had photographed a large object. He realized that a height of 30 meters [98 feet] was more consistent with his estimate of distance than a height of 10 meters [33 feet].... His subsequent 'failure' to locate the camera position may be explained by the need to avoid exposure of his hoax.... Surely Wilson and his friend could identify an otter; they must have known exactly what the object was, and yet he never suggested that explanation.... Somehow (perhaps deliberately) he managed to capture the [otter's] tail while it was erect.... That Wilson knew that he had photographed an otter may explain the care with which he always avoided any claim that he had photographed the 'monster.' The analysis shows that the size and shape of the object in the picture is consistent with an otter.... It must be concluded that Wilson photographed nothing more extraordinary than an otter at play. However, he concealed this fact, and by lying about

the height at which he stood above the water, allowed others to conclude that he had seen the 'monster.'"

Readers may examine the photo, reproduced here, to determine for themselves if it resembles the tail of a diving otter. The only person who knows for certain how the photo was taken, and what it depicts, is Lt. Col. R. Kenneth Wilson, M.D., and he died in Australia in 1969. □

MESSAGE FROM THE EDITOR

Considerable space has been allocated in this issue to the recent controversy surrounding one of the Rines underwater "flipper" photos of Nessie, long considered a prime piece of evidence in cryptozoology. We have attempted to obtain and present the details relevant to the case --both the negative allegations and the responses to the allegations--in an objective manner, and have also consulted with two specialists in image processing, one of whom did the original computer enhancements.

Because the principals at the receiving end of the allegations have not been permitted to respond in the same forum (*Discover* magazine), Dr. Rines and his Academy of Applied Science team have been given space in this newsletter to respond. Messrs. Razdan and Kielar, and the staff of *Discover*, are welcome, in turn, to respond to the Rines group. Readers are reminded that, in line with the ISC Policy Statement published in the last (Autumn) newsletter, the Society takes no official position in this controversy, but merely serves as a forum for publishing the pertinent information.

-- J. Richard Greenwell
Editor

SAN DIEGO MEETING DETAILS

Final plans have been made for the 1985 Membership Meeting in San Diego, to be held on Saturday, May 25, and hosted by ISC Board Member Forrest Wood. Because of logistical problems (security and renovations) at the Hubbs-Seaworld Research Institute, the meeting has been moved to The Atlantis, a nearby restaurant owned by Seaworld. The exact address is 2595 Ingram Street, in Mission Bay.

The meeting will begin in the East Room at 11 a.m. with a social hour, during which wine will be served. This will be followed by lunch from noon to 1:30 p.m. At least four talks will be given in the afternoon, followed by a panel discussion with questions and answers from the floor. The program will be informal.

Capacity in the East Room is limited to 80 persons. Badges will not be issued, as stated in a previous (Autumn) newsletter, but there will be a \$10 per person registration fee, payable in advance—even for those who have already "preregistered" in response to the previous newsletter notice. The \$10 fee covers lunch, tax and tips, and use of the restaurant facilities; the Society is not including any additional fees of its own, and there will be no charge for the wine served during the social hour. As admittance will be limited to about 80 persons, it is strongly recommended that persons wishing to attend send in their fees as soon as possible, together with the name(s) of the persons being registered. Members are requested not to attempt to preregister with the restaurant, with Seaworld, or with host Forrest Wood. Checks should be made out to the Society and mailed to the ISC Secretariat in Tucson.

The final program includes talks by Richard Greenwell ("A Proposed Classification System for Cryptozoology"); Forrest Wood ("Historical Background on the Giant Octopus"); Roy Mackal ("Histological and Amino Acid Analysis of the Giant Octopus Tissue"); and Tom Williams ("The Ri Unmasked: A Lesson for Cryptozoology"). □

BRIGHTON SYMPOSIUM REMINDER

European members, and those visiting Europe next summer, are reminded of the symposium "Cryptozoology: The Search for Unknown or Supposedly Extinct Animals," to be held as part of the Third International Congress of Systematic and Evolutionary Biology (ICSEB III) at the University of Sussex, England, July 4-10, 1985. The symposium, scheduled for Sunday, July 7, will include presentations by Bernard Heuvelmans, David Hoppel, Roy Mackal, Grover Krantz, Christine Janis, Richard Greenwell, Helmut Hemmer, and Piotr Klafkowski. Details on registrations and accommodations appeared in the Autumn, 1984, newsletter. Members wishing to preregister should communicate with the Congress Office, as detailed previously, not with the ISC Secretariat. Final program details will appear in the Spring, 1985, newsletter, and interested members may obtain a copy of the program from ISC by April. □

"FANTASTIC ZOOLOGY" TO BE ADDRESSED IN GERMANY

The 1985 Annual Congress of the German Zoological Society, to be held in Vienna, Austria, May 27-June 2, will include a

session on "Fantastic Zoology," which European ISC members may find interesting.

The Congress' announcement states: "Fantastic zoological entities have inspired and fascinated mankind for centuries. Thus, an army of monstrous animals occupied and ruled the medieval oceans... timid unicorns... were caught in the forest by using a virgin for bait... goblins, rhinogrades, and Nessie have so far been the subject of numerous ecological considerations and scientific analyses." The announcement adds that the session will be "devoted to the care and protection of such impressive beings." Serious and humorous contributions are invited, and prizes will be awarded to the most fantastic.

Interested persons should contact Gabriele Peters, German Zoological Society, Olbersweg 24, 200 Hamburg 50, West Germany. □

QUOTATIONS

"By the worldly standards of public life, all scholars in their work are of course oddly virtuous. They do not make wild claims, they do not cheat, they do not try to persuade at any cost, they appeal neither to prejudice nor to authority, they are often frank about their ignorance, their disputes are fairly decorous, they do not confuse what is being argued with race, politics, sex or age, they listen patiently to the young and to the old who both know everything. These are the general virtues of scholarship, and they are peculiarly the virtues of science."

Jacob Bronowski
Science and Human Values
Hutchinson, London, 1956.

EVOLUTIONIST SIMPSON CRITICIZES CRYPTOZOOLOGY

In early 1984, the *Proceedings of the American Philosophical Society* published a 19-page article by George Gaylord Simpson entitled "Mammals and Cryptozoology" (Vol. 128[1]:1-19). At age 82, Simpson, a vertebrate paleontologist at the University of Arizona, was considered the century's principal evolutionist, having integrated Darwinian natural selection and genetics into a view of how fossils reveal the pace of evolution. He was the author of almost 800 publications, including several classic books, among them *The Major Features of Evolution*, *The Meaning of Evolution*, *Geography of Evolution*, and *Principles of Animal Taxonomy*. He also authored the important 1945 treatise, "The Principles of Classification and a Classification of Mammals," in the *Bulletin of the American Museum of Natural History* (Vol. 85:1-350).

Simpson, who died shortly after the publication of his cryptozoology article (see separate note this issue), could certainly be considered one of the most influential leaders of the zoological establishment, representing, perhaps, its more conservative element; thus, any pronouncements he would make on cryptozoology could be expected to carry some weight, and have an impact on the discipline. For this reason, if no other, Simpson's article may be considered a landmark in the cryptozoology literature, despite the fact that other knowledgeable persons have been severely critical of his conclusions.

The article begins with a general review of Bernard Heuvelmans' writings and definitions, mentioning the establishment of the Society, and the appearance of its publications. It then goes on to list, in tabular form, the number of mammal genera, by order, discovered in the 20th century, which are:

1900-09=42; 1910-19=22; 1920-29=20; 1930-39=8; 1940-49=7; 1950-59=8; 1960-69=9; 1970-79=8 (and two for the 2-year period of 1980-82). Simpson notes that most of the new mammal genera discovered in this century (84 out of 126) were discovered prior to 1930, indicating a general decline of new finds in recent decades, and that the majority belonged to only two orders, Chiroptera and Rodentia. Simpson's point is that the basic premise of cryptozoology--that there may still be new kinds of animals unknown to science but known to native peoples--is undermined by these figures.

One criticism which has been made of this approach is that the rate of routine discoveries of mammals has no bearing on cryptozoology simply because they are essentially made by chance, whereas cryptozoology relies on prior knowledge of an animal's existence by native peoples or other eyewitnesses, and requires specifically directed fieldwork.

In addressing some of the cryptozoological discoveries which have occurred in this century, Simpson attempts to reduce their importance thusly:

Catagonus (Tagua, the "fossil" peccary found surviving in Paraguay)--"Although the mammalogists were so late in discovering *Catagonus* abundantly alive in the poorly explored Chaco... the species is just another, more localized peccary belonging to a family well-known to mammalogists...."

Latimeria (the coelacanth fish)--"[Heuvelmans' statement] really is mythifying a now well-known and living fish. *Latimeria* is very different from any Devonian fish. It is also different from any late Cretaceous crossopterygian known from

fossils...since the late Cretaceous it had evolved considerably."

Okapia (the okapi, depicted in the Society logo)--"When the okapi had become known to Europeans, the suggestion was made that it might be a species of *Heladotherium*, long known as an early (Miocene) giraffid. This is, however, incorrect. In some respects, *Okapia* is somewhat more like early giraffids such as *Paleotragus*, Gaudry 1861 (late Miocene to early Pliocene), but it has become distinctly different...only one dubious occurrence of *Okapia* in the Pleistocene is known. Thus, *Okapia* is not a survivor of a known fossil genus, subfamily, or family."

Simpson then goes on to observe that "humans are the most inventive, deceptive, and gullible of all animals. Only those characteristics can explain the belief of some humans in creationism...or in some aspects of cryptozoology. In several respects, the discussion and practice of cryptozoology sometimes, although not invariably, has demonstrated both deception and gullibility." He points out, in criticizing Heuvelmans' first book, that the Nandi Bear "has been found to be a honey badger or ratel, *Melivora capensis*." (The Editor has been unable to determine where or when this was "found"--and Simpson provided no references. It is known, however, that Heuvelmans himself discussed the ratel possibility in his book.)

The Orang Pendek, states Simpson, "may have been a dwarf human or if not purely mythical probably a Malayan bear." He discusses primatologist John Napier's book on Bigfoot, pointing out that, 10 years later, "no Bigfoot has been discovered."

In his conclusions, Simpson

states that cryptozoology "satisfies some emotional need or perhaps some inborn tendency." After further criticisms of Heuvelmans, Porshnev, and several others, Simpson raises a point often cited as an argument against the concept of cryptozoology: "...the reported footprints and claimed sightings of the most discussed cryptozoological mammals are in regions quite thoroughly known by many people, including zoologists. The Yeti is supposed to be in a region of difficult access... [but] every year there are expeditions of competent humans into the higher parts. As for the footprints and claimed sightings of the Sasquatch, these have occurred in well-populated regions.... It is simply incredible that so many educated people, including professional zoologists and anthropologists, should have failed to produce any objective evidence that Yetis or Sasquatches do exist."

Simpson's final conclusion, in predicting future events, is that, "after so many futile years, the chances of objective and adequate evidence for the living zoological reality of the

Yeti or the Sasquatch are extremely small...that really and entirely new taxa above the level of families will be discovered is improbable, approaching or reaching zero as the taxa are higher in the hierarchy of classifications."

Despite its negative tone, many members of the Society have expressed satisfaction that someone of Simpson's stature would see fit to review the topic. It is important to remember that Simpson specifically addressed the question of cryptozoological mammals---although he also discusses other kinds of animals (fish and reptiles), so by implication his negative conclusions spill over to all classes of cryptozoological animals. Some Society members have pointed out a number of inconsistencies and misconceptions by Simpson, due partly, perhaps, to an incomplete grasp of the cryptozoology literature. Others, less charitably, propose that Simpson purposefully misconstrued and misrepresented many facts. Certainly, there are a number of surprising errors in Simpson's article. However, the main problems seem

to result from a general misconception of what cryptozoology actually is, and what the purposes of the Society are.

Scientific American, in its July, 1984, issue, published a column on the Simpson article. The magazine summarized Simpson's point in a balanced and fair manner, without adding editorial comments of its own. Some of Simpson's errors, however, carried over into this column. At least one Society member has written to *Scientific American* clarifying various points.

Whatever the shortcomings of Simpson's article, it must be recognized that he was a person of immense experience and knowledge, derived from 50 years of fieldwork, museum work, and scientific synthesis. His criticisms, in the long run, may have a beneficial effect on cryptozoology in that they may result in a sharpening of methodologies and clearer, more precise definitions of what cryptozoology is concerned with. This may be the legacy that George Gaylord Simpson has left us. □

GEORGE GAYLORD SIMPSON, 1902-1984

George Gaylord Simpson, a noted paleontologist and evolutionist, died on October 6, 1984, in Tucson, Arizona. Most of his professional life--which resulted in almost 800 publications, including several books--was associated with the American Museum of Natural History, Columbia University and Harvard University. He joined the University of Arizona faculty in 1967, and retired in 1982 as a professor emeritus. He received numerous scientific medals, awards, and honorary degrees.

Dr. Simpson also served as a major in U.S. Army Intelligence in North Africa during World War

II, and managed to retain during the war his famous Van Dyke beard, despite strenuous objections from General George Patton. His paleontological fieldwork took him mainly into the southern hemisphere. Much of his work concerned mammals, but he was considered the 20th century's pioneer of synthetic evolutionary theory.

Simpson's involvement with cryptozoology was both marginal and negative. He reviewed Bernard Heuvelmans' *On the Track of Unknown Animals in Natural History* in 1959, dismissing most of the author's conclusions (see Cryptoquote, *Newsletter*, Winter,

1982). One of the last major writings he undertook just before his death was a 19-page article, "Mammals and Cryptozoology," published in the *Proceedings of the American Philosophical Society* in 1984 (Vol. 128 [1]:1-19). The article (which is discussed in a separate article in this issue) is a general review of the concept and practice of cryptozoology, based primarily on the first Heuvelmans book and the first issue of *Cryptozoology*. The review is negative, and predicts that no new significant zoological discoveries will be made in the future. □

SUSTAINING MEMBERS

In response to an appeal in early 1984, 71 members contributed amounts over and above the regular \$25 membership fee, making them 1984 Sustaining Members. Such donations, which are tax-deductible to U.S. members (the IRS Tax Determination No. is 95-2915129), were very much appreciated, and they helped the Society through a difficult financial period. The list of 1984 Sustaining Members appears below:

Robert Andronaco, George Behe, Vince Brolley, J. M. Buehring, Bruce and Beverly Burgess, Gene Carrol, Joseph Ciano, Loren Coleman, Blair Cooke, Louise Deadman, David Dickinson, Conrad Durst, Curtis Fuller, Russell Gebhart, Michael Germroth, Dan Gettinger, Gary Gieseke, Daniel Gilbert, David Gipson, Benoit Grison, Tom Hardy, John Heckman, Richard Heiden, Jim Hewkin, Arthur Howe, Glen Johnson, Donald Keller, Glen Kuban, Cory Laughlin, Paul LeBlond, Nicolas Le Souef, Jan Libourel, Frank Lynch, Roy Mackal, John Maliwacki, Dirk Mattheisen, Ralph McGheehan, John Mohn, Christopher Muir, Sharon and Steven Nevin, Aaron Pearl, Christopher Pepo, Cira Peragine, Peter Peyper, Lenny Picker, Howie Pine, Michael Playfair, Nicholas Pope, James Powell, Michael Pugliese, Michael Raynal, James Robbins, Ennio Scanapieco, Michael Shields, Michael Sieber, Christopher Smith, David Smith, Ted Straiton, Gordon Strassenburgh, Joe Swatek, Jean

Sylvestre, Bob Titmus, Gavin Troster, Perry Edward Turner, Jr., Helen White, Thomas Wilkinson, Forrest Wood, Joseph Zarzynski and Pat Meaney.

In addition, several members availed themselves of the opportunity to become Benefactors, which requires a minimum one-time payment of \$1,000. Benefactors are automatic life members. To date, the Society has received the generous support of the following Benefactors: Robert C. Dorion (Guatemala), Michael T. Martin (U.S.A.), Gale J. Raymond (U.S.A.), Kurt Von Nieda (U.S.A.), and Ned Winn (Switzerland). □

MEMBERSHIP RENEWAL INFORMATION

Membership renewals for 1985 may be paid upon receipt of this newsletter--the 1984 journal has been further delayed, but should be mailed out in late March or early April (members outside of the United States are reminded that theirs will be sent by surface mail). Membership dues remain at US\$25.

This newsletter contains a renewal/return envelope to facilitate payment of dues. Simply peel your address label off the newsletter (or off the manila envelope, for those outside the United States), affix it to the designated spot on the return envelope, and return with your check or money order. The journal has a similar envelope, which is used by Allen Press as the mailer (no peel-off is

necessary).

The following renewal procedures are in force: All members renewing by check or money order to the ISC Secretariat (Tucson) must do so using U.S. currency. The only exception is for persons residing in Canada, who may send payments in Canadian dollars provided that the exact exchange rate applicable at the time is used. Persons in Europe, North Africa, or the Middle East may send their US\$ payments to the new ISC Secretariat for Europe if they prefer. The address is: 25 chemin de Trembley, 1197 Prangins, Switzerland. Members in the United Kingdom may now also pay their dues (or buy back issues) in pounds sterling to the Secretariat for Europe, or directly to the Society's sterling account in London: Midland Bank, Knightsbridge Branch, 202 Sloane St., London SW1X 9RG, tel: (01) 821-1344 (Account No. 91119095). Membership dues in pounds sterling are £25. Depositors should indicate the purpose of the payment. (Sterling payments should not be made to the Secretariat in Tucson.)

Prompt renewals are requested to reduce administrative time and costs. Donations are also very welcome, particularly as membership dues have remained constant since the founding of the Society in 1982. The Society remains in a tight financial situation. Total paid memberships at the end of 1984 were about 600, with an additional 200 members who did not renew from 1982 and 1983. It is estimated that 1,000 paying members are needed to make the Society fully self-supporting. □

CRYPTOLETTERS

To the Editor:

The interview between yourself and Marcellin Agnagna increases my suspicion that the animal Agnagna saw was not a sauropod, even if it was the creature the local people refer

to as Mokele-Mbembe. The distance at which the animal was sighted, the excitement of the moment, the shallowness of the lake in relation to the few sightings and alleged size of Mokele-Mbembe, all suggest that Agnagna can hardly be sure of the exact nature of the animal he claims to be Mokele-Mbembe,

and cannot rule out the possibility that it represents an animal unknown to science other than a sauropod (such as an unknown swimming reptile or giant turtle).

He insists that the animal was not a giant turtle, but gives absolutely no evidence to

rule out this possibility. Indeed, everything in his descriptions only supports this possibility. All he saw of the animal was its head, neck, and back, and these he described as basically reptilian. In case anyone forgot, a turtle is a reptile. Even if it did not look exactly like the enormous turtle he saw earlier, we must consider the distance involved and the possibility that more than one species of the large turtle might inhabit the lake. Also, since much of the animal was submerged, Agnagna could not be sure whether the animal had flippers or feet, or whether the wide back was really a shell.

In the interview, Agnagna wisely declined to flatly state that he felt the animal was a sauropod, and he admitted that he could not give a complete description of the animal because of the distance involved. Yet in his Field Report in *Cryptozoology* (Vol. 2:103-112), he flatly stated the animal he saw was a sauropod. And in the interview he flatly denied the possibility of the alternative animal forms that were suggested, thus again implying that the sauropod explanation was the only plausible one.

Although Agnagna seems eager to dismiss all possible explanations for his sighting other than that the creature was a sauropod, the alternative possibilities have not been adequately ruled out. In a field such as cryptozoology, which is already struggling to maintain credibility as a valid scientific discipline, we must be extra careful to weigh all evidence carefully, explore alternative explanations openly, and refrain from making premature conclusions. Better caution now than embarrassment later.

Glen J. Kuban
Parma, Ohio, U.S.A.

Mr. Kuban makes similar criticisms in a Comment to appear in Vol. 3 of Cryptozoology. Mr.

Agnagna's Response will appear in the same issue.

--Editor

To the Editor:

As a student of the hearing sciences with a special interest in evolutionary sensory biology, I would like to comment on Marcel Agnagna's account of his sighting of Mokele-Mbembe. He states that when he approached the creature to a distance of approximately 700 feet the animal moved its head around "as if to determine the source of the noise." The scientific literature suggests that such a reaction by a sauropod would not occur.

On the basis of fossil evidence it would appear that most of the ancestral reptiles had massive stapes, with a relatively low aerial ratio. Therefore, the sensitivity of their auditory systems would, at best, be limited to fairly intense vibrations of the substrate in the immediate vicinity--vibrations such as would be produced by a large archosaur on solid ground. (It was selective pressures later placed on the early mammals--or their reptilian progenitors--which gave rise, in a series of stages, to the highly sensitive mammalian middle ear).

Based on these facts, one could conclude that Agnagna's sighting was not a true sighting. Or that a creature had been sighted but it probably was not a survivor from the Mesozoic.

There is a third possibility--suggested to me by the Editor himself in a phone conversation. The animal may not have reacted to sound at all. Rather, Mokele-Mbembe may have reacted to the excited movements of observers seeing what few people on earth have ever seen--a living dinosaur. This explanation is a plausible one, as vision had been exploited with a moderate degree of success by

the reptiles. Hopefully, this explanation is the correct one.

Dan Gettinger
Hewlett, New York, U.S.A.

To the Editor:

Readers may be interested in knowing about a new approach to finding the physical remains of a Sasquatch (Bigfoot). It involves using an infrared (I-R) imager to locate a dead body by sensing the heat of its decomposition.

The procedure presupposes that I am correct in judging the most probable locations for normal deaths, and that the ailing Sasquatches did not conceal themselves in any more than a moderate cover of natural vegetation. The search is also limited to areas of severe winters, where the animals are frozen until spring thaw. At such time, there would be only about a month before decomposition is completed. Accordingly, my search will be limited to the month of April.

I have acquired an I-R imager. Since its most effective use involves viewing from above, a helicopter is the obvious practical choice of vehicles (in addition, it can hover for careful viewing). Ground searches would follow up promising sites.

The major remaining problem is to acquire the use of a helicopter. Renting one is too costly. Any thoughts or offers along this line from the membership would be appreciated.

Film coverage of this kind of search would be valuable--especially if it were to succeed. Public reaction would also be favorable, as it would not involve killing a specimen.

Grover S. Krantz
Department of Anthropology
Washington State University
Pullman, Washington, U.S.A.

CRYPTOQUOTE

Somehow these stories... lingered in [my] memory, and were revived at the time Stanley published his account of the Emin Pasha expedition, *In Dark-est Africa*. A note in the appendix to the book states that the Kongo dwarfs knew an animal of ass-like appearance which existed in their forests.... I determined to make further inquiries on the subject whenever fate should lead me in the direction of the great Kongo forest. Fate was very kind to me in the matter.... Provided with guides, I entered the awful depths of the Kongo forest with my expedition. For several days we searched for the okapi, but in vain.... The atmosphere of the forest was almost unbreathable with its Turkish-bath heat, its reeking moisture, and its powerful smell of decaying, rotting vegetation. We seemed, in fact, to be transported back to Miocene times.... Severe attacks of fever prostrated [us], and we were obliged to give up the search.... Seeing my disappointment, the Belgian officers very

kindly promised to use their best efforts to procure me a perfect skin of the okapi. Some months afterwards, the promise was kept by Mr. Karl Erikson, a Swedish officer...who obtained ...the body of a recently killed okapi.... This same forest, I believe, conceals other wonders...not yet brought to light.

Sir Harry H. Johnston
(From: "The Okapi: The Newly Discovered Beast Living in Central Africa," *Annual Report of the Board of Regents of the Smithsonian Institution*, Washington, D.C., 1902)

WOOD'S ANIMAL FACTS

The largest carnivorous fish ...is the comparatively rare great white shark (*Carcharodon carcharias*)...which ranges from tropical waters to cool, temperate zones. Adult specimens (females are larger than males) average 14-15 feet (4.3-4.6 meters) in length and generally

scale between 1,150 pounds (522 kilograms) and 1,700 pounds (771 kilograms). ...In November, 1932, a 26-foot (9.6-meter) great white shark was found trapped in a herring weir at Harbour de Loutre, Campobello Island, New Brunswick, Canada...

In 1977, a great white shark measuring an estimated 31 feet (9.5 meters) in length was seen on several occasions by [California] sword fishermen, and by the pilot of their spotter plane... [They] did not attempt to harpoon it... In May, 1978, an enormous individual swam into the harbour of San Miguel [Azores], and made a general nuisance of itself for over an hour before a well-aimed lance thrust through the gills ended its life... Trevor Housby, the well-known European big-game fishing consultant...happened to be present... The man-eater measured an astonishing 29 feet, 6 inches (9 meters) in straight-line length...

The Guinness Book of Animal Facts and Feats, by Gerald L. Wood. Guinness Superlatives, Ltd., Enfield, England, Third Edition, 1982.

Honorary Members: Andre Capart (Belgium); Marjorie Courtenay-Latimer (South Africa); David James (United Kingdom); Marie-Jeanne Koffmann (Soviet Union); Ingo Krumbiegel (Federal German Republic); Theodore Monod (France); John R. Napier (United Kingdom); Sir Peter Scott (United Kingdom).

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